

A Science ‘SHOUT OUT’



Ray Timm, one of the scientists in the King County Science and Technical Support section, successfully defended his doctoral dissertation, “Changes in fluvial habitat conditions across a disturbance continuum: implications for salmon restoration,” in the School of Aquatic and Fishery Sciences at the University of Washington.

Timm studied how human and natural disturbance regimes influenced the population structure of sockeye in the Cedar River. When the Nisqually earthquake triggered a channel-damming landslide in 2001, habitat conditions changed dramatically and the fish responded accordingly at the population scale.

Timm’s dissertation consisted of three complimentary models:

- He developed a spatially explicit watershed and riparian habitat model to quantify site characteristics and restoration potential in the lower Cedar River;

- He used a digital elevation model differencing technique to quantify the spatial and temporal geomorphic responses of the channel-floodplain ecosystem to the landslide disturbance;
- Finally, he developed a dynamic multivariate statistical model to uncover which variables were the most important for spawning fish across a range of changing conditions.

Together, these three models explain how river habitats respond to large disturbances, and how changes in habitat conditions influence salmon population behavior. This study provides insight into the magnitude and intensity of habitat restoration necessary to restore critical habitat functions of river landscapes that are vital to recovering salmon.

For more information on his work go to <http://scholar.google.com/citations?user=lkBk9DsAAAAJ&hl=en>

Congrats, Ray!

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